A.D. 1870, 31st *August*. N° 2379.

SPECIFICATION

OF

OTTO GJERDRUM.

SMOKE-PREVENTING APPARATUS.

LONDON:
PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
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1871.

Price 4d.

A.D. 1870, 31st August. N° 2379.

Smoke-preventing Apparatus.

(*This Invention received Provisional Protection only.*)

PROVISIONAL SPECIFICATION left by Otto Gjerdrum at the Office of the Commissioners of Patents, with his Petition, on the 31st August 1870.

I, Otto Gjerdrum, of Christiania, in the Kingdom of Norway, but at present of 89, Chancery Lane, London, do hereby declare the nature of the said Invention for "Improvements in Smoke-preventing Apparatus," to be as follows:—

This Invention consists in a peculiar arrangement of fire-doors and dampers in boilers having more than one furnace, the said fire-doors and dampers being in connection with each other in such a way that when, for instance, in a double flued boiler the right-hand door be opened for the purpose of firing a damper on the same side shuts the flue corresponding, thus compelling the products of combustion from the right-hand furnace to pass over and mix with the products of combustion passing off by the left-hand flue, the damper for which is simultaneously opened. On shutting the right-hand door the dampers remain in the same position till the effect of the raw coals put on have disappeared. The left-hand fire-door is then opened, by which operation the position of the damper becomes reversed.

To accomplish this object and at the same time ensure a proper supply of hot fresh air, I employ the following arrangement:—Each door is by a spiral spring, in connection with the lower arm of a double-armed lever, the spindle of which carries or is connected to a damper for a flue tending to shut off the products of combustion, proceeding from that furnace. When the spring by opening the door is sufficiently compressed the lever is moved and the damper on that side shut. The lever is held in its position by a spring catch and the elasticity of the spiral spring allows the door to be shut again. On opening the other door the same action takes place. Two bars passing across the front of the boiler serve to disengage the spring catches on one side or the other, by being acted upon by the other end of the said double-armed lever. Tubes passing from the front to the space over or behind the bridge and having regulators if desired convey fresh warm air to aid the perfect combustion of coal and the prevention of smoke. By manipulating properly with the doors the dampers may be worked in such a way as to ensure the object desired. The bars can easily be removed when it is desired to clean the tubes of the boiler if applied to a tubular boiler.

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Printers to the Queen's most Excellent Majesty. 1871.